DOE–LM/1473–2007

Third Five-Year Review Report for Monticello Radioactively Contaminated Properties Monticello, Utah San Juan County, Utah

June 2007

U.S. Department of Energy

Office of Legacy Management

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DOE-LM/1473-2007

Five-Year Review Report

Third Five-Year Review Report

For
Monticello Radioactively Contaminated Properties
Monticello, Utah
San Juan County, Utah

June 2007

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List of Acronyms

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
cm	centimeter(s)
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Difference
FFA	Federal Facility Agreement
LM	Office of Legacy Management
LTSM	Long-Term Surveillance and Maintenance
MMTS	Monticello Mill Tailings Site
MRAP	Monticello Remedial Action Project
MVP	Monticello Vicinity Properties
NPL	National Priorities List
OU	operable unit
pCi/g	picocurie(s) per gram
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act of 1986
SFMP	Surplus Facilities Management Program
TSF	temporary storage facility
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UMTRCA	Uranium Mill Tailings Radiation Control Act of 1978
VCA	Vanadium Corporation of America
WL	working level

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Executive Summary

The Monticello Radioactively Contaminated Properties site, also known as the Monticello Vicinity Properties (MVP) site, was remediated by the U.S. Department of Energy (DOE) in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act as amended by the Superfund Amendments and Reauthorization Act of 1986. The MVP site includes 424 public and private properties, comprising eight operable units (OUs) designated OU A to OU H, that were contaminated with mill tailings originating from the former uranium and vanadium-ore mill near Monticello, Utah. This is the third five-year review for the MVP. The MVP is interrelated with the Monticello Mill Tailings Site (MMTS), comprising the former millsite and several adjacent or nearby rural properties. The MVP and MMTS undergo separate but concurrent five-year reviews.

The remedy for OU A to OU G included the removal of all radioactively contaminated material to levels promulgated in 40 CFR 192 pursuant to the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) that allow unlimited use and unrestricted exposure. Radioactively contaminated materials and debris were placed in the on-site DOE repository constructed and operated under MMTS. The remedy for OU H, comprising properties MS−00176–VL, Monticello City Streets and Utilities, and Highways 191 and 666 Rights-of-Ways (Highway 666 has since been renamed Highway 491), included leaving radioactively contaminated soil in place above levels that allow for unlimited use and unrestricted exposure. Contamination at these properties resides beneath pavement and sidewalks and in the Highway 191 embankment at Montezuma Creek. In conjunction with alternate cleanup standards for these properties allowed under UMTRCA, DOE has implemented institutional controls to minimize exposure to and dispersal of contamination left in place. Remedial actions for the MVP, implemented under the November 1989 Record of Decision (ROD), were completed by July 1999. The MVP was deleted from the National Priorities List in February 2000.

The remedy for OU A to OU G is protective of human health and the environment. Contamination has been removed to levels that allow unlimited use and unrestricted exposure. The remedy implemented for OU H is protective of human health and the environment through the implementation of institutional controls. Written agreements between DOE and the city of Monticello and Utah Department of Transportation (UDOT) ensure that contaminated material encountered during City and UDOT excavations in Monticello, or as a result of significant erosion at the highway embankment, is appropriately managed through specific radiation control procedures. Protectiveness at property MS–00176–VL is maintained through the building permit process to prevent construction in areas where contamination remains in place. There have been no changes in physical conditions or in the use of the MVP site that would reduce the protectiveness of the remedy or render the initial risk analyses invalid. Exposure assumptions, toxicity data, and cleanup levels have not changed since the ROD was signed. Because the remedial actions at all MVP OUs are protective, the MVP site is protective of human health and the environment.

The DOE Office of Legacy Management (LM) administers the MVP (and MMTS). The MVP and MMTS properties are routinely monitored under DOE-LM to ensure that institutional controls remain relevant and effective in preventing exposure to contamination left in place and that changing site conditions do not compromise remedy protectiveness.

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Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN)**:** Monticello Radioactively Contaminated Properties (also known as Monticello Vicinity Properties site [MVP]).		
EPA ID (from WasteLAN)**:** UTD980667208		
Region: 8	**State:** Utah	**City/County:** Monticello/San Juan

SITE STATUS	
NPL status: ☐ Final ☒ Deleted ☐ Other (specify) _____	
Remediation status (choose all that apply): ☐ Under Construction ☐ Operating ☒ Complete	
Multiple OUs?* ☒ YES ☐ NO	**Construction completion date:** 07/14/1999
Has site been put into reuse? ☒ YES ☐NO Residential and commercial properties.	

REVIEW STATUS	
Lead agency: ☐ EPA ☐ State ☐ Tribe ☒ Other Federal Agency U. S. Department of Energy	
Author name: Jalena Maestas	
Author title: LM Site Manager	**Author affiliation:** U.S. Department of Energy Office of Legacy Management (LM)
Review period:** 6/21/2002 to 6/20/2007	
Date(s) of site inspection: 9/27/2006 to 9/29/2006	
Type of review: ☒ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe lead ☐ Regional Discretion	
Review number: Third	Other (specify) _____
Triggering action: ☐ Actual RA Onsite Construction at OU # _____ ☐ Actual RA Start at OU # _____ ☐ Construction Completion ☒ Previous Five-Year Review Report ☐ Other (specify) _____	
Triggering action date (from WasteLAN)**:** 06/20/2002	
Due date (five years after triggering action date)**:** 6/20/2007	

* ["OU" refers to operable Unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd

Issues:
None

Recommendations and Follow-up Actions:
None

Protectiveness Statements:
The remedy at OU A to OU G is protective of human health and the environment. Contamination has been removed from OU A to OU G to appropriate clean up standards that allow unlimited use and unrestricted exposure.

The remedy at OU H (Monticello City Streets and Utilities, Highways 191 and 666 Rights-of-Way, and property MS–00176–VL) is protective of human health and the environment (Highway 666 has since been renamed Highway 491). Supplemental standards have been applied and institutional controls have been implemented to prevent exposure to contamination left in place.

The remedy for each Operable Unit of the Monticello Vicinity Properties NPL Site (OU A to OU H) has attained construction complete status. Because the remedial actions at all OUs are protective, the MVP site is protective of human health and the environment.

Other:
The Cooperative Agreement between DOE and city of Monticello expired June 27, 2005, but by mutual agreement was extended to December 31, 2006. DOE and the City have since negotiated a new agreement extending to December 31, 2016.

The primary purpose of the remedial action for the MVP, as specified in the Record of Decision (ROD), was to limit exposure to radioactive material to levels protective of human health and the environment. These levels are specified as standards for radium, radon and radon daughters, and gamma exposure rates in Title 40, *Code of Federal Regulations*, Part 192. These cleanup levels have not changed since the ROD was signed. There have been no changes in physical conditions or in the use of the site that would reduce the protectiveness of the remedy.

The final component of the MVP remedy was implemented in 2002 with the enactment of Zoning Ordinance 2002-4. This designation placed a land-use restriction, involving the building permit process, on supplemental standards property MS−00176−VL.

The *Long-Term Surveillance and Maintenance Plan for the Monticello NPL Sites*, June 2007, has been developed to update and direct activities to monitor site locations and ensure that the institutional controls remain relevant, adequate, and effective in preventing exposure to contamination left in place.

1.0 Introduction

1.1 Purpose

The U.S. Department of Energy (DOE), in consultation with the U.S. Environmental Protection Agency (EPA) and Utah Department of Environmental Quality (UDEQ), conducts five-year reviews to determine whether the remedy at the Monticello Radioactively Contaminated Properties site, otherwise known as the Monticello Vicinity Properties (MVP) site, is protective of human health and the environment. The methods, findings, and conclusions of the review are documented in this five-year review report. In addition, the report identifies issues found during the review and provides recommendations for resolution. This review addresses the eight operable units (OUs) comprising the MVP (OU A to OU H), although only OU H includes properties where contamination was left in place above levels that allow for unlimited use and unrestricted exposure.

1.2 Authority for Conducting MVP Five-year Reviews

The five-year review is a statutory requirement for the MVP site because, as part of the remedy, contamination remains at the site above levels that allow for unlimited use and unrestricted exposure. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 (c) states the following:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such review, and any actions taken as a result of such reviews.*

EPA interpreted this requirement further in the National Contingency Plan [Title 40 *Code of Federal Regulations* (CFR) Part 300.430(f)(4)(ii)] which states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The contamination left in place that prevents unlimited use and unrestricted exposure, and mandates the five-year review is limited to properties comprising OU H. These properties are known as Monticello City Streets and Utilities, Highways 191 and 666 Rights-of-Way, and private property MS–00176–VL (Highway 666 has been renamed Highway 461).

1.3 Five-Year Review Team and Schedule

The DOE Office of Legacy Management (LM) Site Manager conducted the review of the MVP remedy between September 2006 and May 2007 with the assistance of DOE contractor personnel and oversight by EPA and UDEQ. This report documents the results of the latest (third) five-year review for the MVP, covering the period June 2002 through May 2007. Separate but concurrent five-year reviews are conducted for the companion National Priorities List (NPL) site in Monticello (the Monticello Mill Tailings Site [MMTS]).

2.0 Site Chronology

The main events leading to the formation and eventual remediation of the MVP site are summarized chronologically in Table 1.

Table 1. Chronology of MVP Events

Event	Date
Vanadium and uranium milling at the Monticello mill resulted in soil contamination of properties in the vicinity of the millsite and in Monticello.	1941–1960
Radiological surveys of Monticello properties begins by DOE.	1971
Millsite was accepted into the Surplus Facilities Management Program to ensure safe caretaking and decommissioning of government facilities that had been retired from service but still contained radioactive contamination. Monticello Remedial Action Project (MRAP) was established.	1980
Removal actions initiated for first two vicinity properties (completed in 1984).	1983
Remedial activities for vicinity properties were separated from MRAP. MVP was established.	1983
DOE began cleanup of MVP prior to signing the Record of Decision (ROD).	1984
The MVP was placed on the NPL.	June 10, 1986
Federal Facility Agreement signed.	December 1988
The MMTS was placed on the NPL.	November 21, 1989
MVP ROD signed.	November 29, 1989
Millsite Pre-Excavation Final Design Report established an alternate Interim Repository that would be used to store wastes removed from MVP. No Explanation of Significant Difference (ESD) required for this action.	1993
An ESD was prepared to explain the increase of cost of the project based on the increase of included properties.	April 1995
OU A to OU H construction completed.	May 1996 to December 1998
OU A Remedial Action Report.	January 1997
First CERCLA 5-Year Review Report	February 13, 1997
ESD issued to provide the rationale for applying supplemental standards to MVP and MMTS properties in which contamination was left in place.	February 1999
OU B to OU H Remedial Action Reports.	June through August 1999
OU A to OU H Final Closeout Report.	September 2, 1999
Deletion of MVP site from NPL.	February 28, 2000
MVP and MMTS transferred to LTSM Program.	October 1, 2001
Second CERCLA 5-Year Review Report.	June 20, 2002
MVP and MMTS transferred to DOE-LM.	December 2003

3.0 Background

3.1 Physical Characteristics

The MVP site is located in rural San Juan County, in and near the city of Monticello in southeastern Utah (see Figure 1). The city of Monticello lies on the Great Sage Plain just east of the Abajo Mountains and north of Montezuma Creek. The population of Monticello presently is about 2,000 permanent residents. The major highway in the Monticello area is U.S. Highway 191, which runs in a north-south direction, connecting Monticello with Moab, Utah, 56 miles to the north and with Blanding, Utah, 22 miles to the south. The city of Monticello is located at an average elevation of 7,000 feet above sea level. The climate is semi-arid with four distinct seasons.

3.2 Land and Resource Use

Land use within the MVP includes residential neighborhoods, a central commercial district, municipal offices, churches, parks, schools, and light industry. Monticello is the seat of the San Juan County Courthouse and also the location of Bureau of Land Management, National Forest Service, and Soil Conservation Service branch offices. Natural resource use in the area includes domestic water provided by the city of Monticello from its origins in the Abajo Mountains. Local ground water usage includes rural drinking water and limited farmland irrigation from bedrock aquifers. A small amount of surface water is used for crop irrigation. No mineral or timber extraction exists within the MVP. Much of the land surrounding Monticello is rural open range or ranchland, or is cultivated for dry-land farming.

3.3 History of Contamination

Uranium and vanadium ore milling in Monticello began in 1941 with the construction of the Monticello mill on undeveloped land along Montezuma Creek immediately south of the town. The original mill, constructed with government assistance by the Vanadium Corporation of America (VCA), provided vanadium during World War II. VCA operated the mill until early 1944, and again from 1945 through 1946 to also extract uranium. In 1948, the U.S. Atomic Energy Commission, the predecessor agency of DOE, purchased the site and resumed uranium and vanadium ore milling in 1949. Vanadium processing ceased in 1955 but uranium milling continued until 1960 when the mill was permanently closed.

Mill tailings are the pulverized remnants of the processed ore and contain potentially hazardous radiological and non-radiological constituents. Tailings were impounded at four locations at the former mill during and after its operation. While the mill operated, some tailings were removed from the millsite by various parties to properties in Monticello for use as fill for open lands; backfill around water, sewer, and electrical utilities; sub-base for driveways, sidewalks, and concrete slabs; backfill against basement foundations; and as sand mix in concrete, plaster, and mortar. Most of these affected properties eventually comprised the MVP site, the remainder were incorporated into the MMTS. As much as 135,000 tons of tailings from the Monticello mill may have been used for such purposes until August 1975 when a fence was erected to prevent unauthorized access to the millsite.

Some mill tailings were also dispersed from the millsite by wind and water erosion to contaminate many surrounding and downstream properties (peripheral properties). The total combined in-place volume of the four tailings piles and surrounding contaminated soils and related by-product material was approximately 2.2 million cubic yards. In addition to contamination of soil and sediment by dispersed tailings, radiological and non-radiological constituents were mobilized from the tailings piles by residual process water and percolating rainwater to contaminate the shallow alluvial aquifer and Montezuma Creek. Contamination of the millsite, peripheral properties, and surface water and ground water eventually comprised the MMTS.

3.4 Remedial Action History

In response to growing environmental health concerns, DOE conducted radiological surveys, initially in 1971, to identify the nature and extent of radiological contamination associated with mill tailings originating from the Monticello millsite. These initial surveys identified 98 anomalous properties. Continued surveys ultimately identified 424 contaminated properties in the residential and commercial area of Monticello ("vicinity" properties) and 34 properties on rural land surrounding and downstream of the millsite ("peripheral properties").

Because these properties, and the former millsite, did not meet the legislative requirements for clean up under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), DOE, under the authority of the Atomic Energy Act of 1954, initiated the Surplus Facilities Management Program (SFMP) in 1978 to ensure safe caretaking and decommissioning of government facilities that had been retired from service but still contained radioactive contamination. In 1980, the Monticello project was accepted into the SFMP for remedial action, and the Monticello Remedial Action Project (MRAP) was established to conduct those remedial actions. As owner and past operator of the site, DOE was identified as the potentially responsible party and tasked with funding and performing the remedial actions necessary to ensure protection of human health and the environment into the future.

In 1983, remedial activities for the vicinity properties were separated from MRAP with the establishment of the MVP (vicinity properties) and the MMTS (former millsite and peripheral properties). The first two vicinity property removal actions were initiated in 1983 by EPA and completed in 1984. The MVP was listed on the NPL on June 10, 1986, and the remaining properties were remediated pursuant to *MVP Project Declaration for the Record of Decision* (ROD) *and Record of Decision Summary*, November 1989. The selected remedy for cleanup of the MVP site was excavation of tailings, ore, and related by-product material from vicinity properties; temporary storage on the millsite; and final disposal in the repository constructed and operated under the MMTS remedy. Remediation of the MVP site was completed in 1999. The Remedial Action Report for OU A, documenting construction complete status and attainment of cleanup goals, was signed into effect in January 1997. Remedial Action Reports for OU B to OU H were signed into effect in July 1999. Deletion of the MVP from the NPL became effective February 28, 2000.

3.5 Basis for Remedial Action

The basis for remedial action of the MVP was to reduce exposure to ionizing radiation from by-product material of the Monticello mill to acceptable levels. The primary ore- and tailings-borne

contaminants at the MVP are radionuclides in the uranium decay series, particularly thorium-230, radium-226, radon-222, and daughters of radon-222. Significant exposure pathways affecting human health include:

- Inhalation of radon-222 and its daughters, which emit alpha radiation;
- External whole-body exposure to radionuclides that emit gamma radiation; and
- Inhalation and ingestion of dust containing thorium-230 and radium-226, which emit alpha and gamma radiation.

For radionuclides in by-product material (as defined in the Atomic Energy Act), the cleanup standards for uranium mill tailings promulgated in 40 CFR 192 pursuant to UMTRCA were determined relevant and appropriate to the MVP. These standards require that average radium-226 concentrations in soil not exceed the background level by more than 5 picocuries per gram (pCi/g) in the surficial 15 centimeters (cm), or by more than 15 pCi/g in successively deeper 15 cm layers, averaged over 100 square meters. If these cleanup standards are met, the property concerned can be released for unlimited use and unrestricted exposure.

The relevant and appropriate standard for an occupied or habitable building such as at the MVP properties requires that average concentration of radon decay-products not exceed 0.02 "working level" (WL) to the extent practicable and in no case to exceed 0.03 WL; and, that gamma radiation not exceed background by more than 20 microroentgens per hour (40 CFR 192). A habitable building can be released for unlimited use and unrestricted exposure if these standards are achieved. A "working level" is a specific amount of alpha energy (1.3E+05 mega electron volts) associated with the decay of radon daughters (progeny) in air. The energy associated with a concentration of 4 picocuries per liter of radon in air is equivalent to 0.02 WL.

4.0 Remedial Actions

4.1 Remedy Selection

The remedial action objectives of all MVP OUs were to remove contamination from the properties to the maximum extent feasible, place the material in the interim repository on the former millsite for eventual disposal in a permanent repository constructed and operated under MMTS, and reconstruct or restore the affected properties. The remedy reduced radiation exposure to the public by removing all contaminated material at OUs A to G (see Section 4.2). As allowed under 40 CFR 192.21 and 192.22, contamination was left in place at some locations on the five properties comprising OU H and supplemental standards were applied to those properties because remediation would:

- Directly produce health and environmental harm that is clearly excessive compared to the health and environmental benefits, or
- Have an unreasonably high cost relative to the long-term benefits.

For the properties where contamination was left in place (OU H properties), institutional controls were implemented and are enforced by DOE to ensure proper long-term management and control of the radiologically contaminated material (see Sections 4.2 and 4.3).

4.2 Remedy Implementation

A Federal Facility Agreement (FFA) among DOE, EPA, and UDEQ, pursuant to Section 120 of CERCLA/SARA, became effective December 1988. DOE, EPA, and UDEQ agreed to perform response actions at the MMTS and MVP sites in accordance with the FFA. DOE is the lead agency that provides the principal staff and resources to plan and implement response actions. EPA and UDEQ share oversight responsibility of activities performed under the FFA, with EPA retaining the lead role.

The MVP site was addressed in eight OUs containing a total of 424 properties. The various individual MVP properties are distributed within the MVP boundary indicated in Figure 1. Contaminated material was removed to radium-226 in soil or interior cleanup standards established in 40 CFR 192.12, or to supplemental standards (see Section 3.5). Two explanations of significant difference (ESDs) were issued for the MVP: the first was issued in April 1995 explaining that the increase in cost of the project was a result of an increase in the number of contaminated properties that would be remediated. The second was issued in February 1999 clarifying the application of supplemental standards to OU H. Each OU is defined below.

- **Operable Unit A**—Properties included in the FFA. OU A consists of 104 properties.
- **Operable Unit B**—Properties included subsequent to the FFA. OU B consists of 243 properties, which were included between December 1989 and August 1994.
- **Operable Unit C**—Disputed properties. OU C consists of 34 properties that initially had tailings contamination alleged to be from the Dry Valley Milling operation. DOE disputed its responsibility to remediate these properties because the contamination originated at an abandoned privately owned uranium mill; however, DOE subsequently agreed to remediate these properties.
- **Operable Unit D**—Properties contaminated with potential hazardous substances. These properties were initially included in OUs A, B, or C. During site assessments for radiological contamination or during remedial action activities, the presence of nonradiological hazardous substances (primarily petroleum hydrocarbons) at concentrations that could present an unacceptable risk to human health and the environment was identified. Nonradiological hazardous substances that exceeded risk-based cleanup standards were remediated on all but one property where ongoing operations limited the extent of cleanup. Six properties are included in this OU.
- **Operable Unit E**—Properties crossed by Halls' Ditch. There are 11 properties in OU E that were crossed by an irrigation ditch called Halls' Ditch. The ditch, which crossed the millsite, was contaminated with tailings. The ditch was remediated but not reconstructed as agreed to by the owner.
- **Operable Unit F**—OU F consists of 10 properties previously included in OUs A, B, or C, where owner negotiations or owner refusal to allow access delayed remediation. DOE ultimately negotiated access and completed remedial action.
- **Operable Unit G**—OU G consists of 11 properties included in the MVP Site since the beginning of 1995. Six of these properties were included as a result of the Site Boundary Program. The Site Boundary Program addressed contacting residents within an 8-mile radius of the millsite to determine if the owners suspected contamination from the Monticello Millsite was present on their property. DOE notified property owners that MVP

inclusion surveys would be conducted at no cost to owners. DOE performed inclusion surveys even when information was uncertain. DOE also surveyed properties, at the owner's request, beyond the 8-mile radius, when reliable evidence of Monticello Millsite materials was provided.

- **Operable Unit H**—Supplemental standards properties. OU H contains five properties where supplemental standards have been applied. One is a privately owned parcel with piñon/juniper woodlands (property MS−00176). The owner of this property declined remedial actions by DOE. The Utah Department of Transportation (UDOT) owns four properties associated with the embankment of U.S. Highway 191 across Montezuma Creek (see Figure 1 for combined UDOT-owned supplemental standards areas). Supplemental standards have also been applied to streets and utilities in the city of Monticello rights-of-way. City streets and utilities areas have not been designated with property numbers but are located within the city of Monticello; therefore, they are part of the MVP site. Institutional controls (see Section 4.3) were implemented as part of the OU H remedy to manage and control contamination as it is encountered during municipal maintenance activities.

Because mill tailings from the Monticello millsite were used locally for construction of residential buildings, the clean-up activities for the MVP required excavation of contaminated materials and, in some cases, demolition of sidewalks, patios, sheds, and other improvements. To the extent feasible, all excavations, affected structures, and other improvements were reconstructed to the pre-remedial action condition. All removed contaminated material was transferred to the former Monticello millsite and temporarily stored apart from the mill tailings impoundment areas. With concurrence of EPA and UDEQ, the interim storage area differed from the location specified in the ROD. Temporarily storing the material in a different location on the millsite was insignificant and did not require an ESD.

Attainment of indoor and outdoor cleanup standards or exposure levels was verified by radiologic monitoring at each property. Completion reports were prepared for each property to document the specific actions taken at the property and to certify compliant remediation.

4.3 MVP Institutional Controls

4.3.1 Radiological Control at City and UDOT Supplemental Standards Areas

The properties historically known as "City Streets and Utilities" and "Highways 191 and 666 Rights-of-Way" are supplemental standards properties that are managed by controlling residual radioactive material encountered during City or UDOT excavations within Monticello city limits, or in the event of excavation or significant erosion of the Highway 191 embankment at Montezuma Creek. Under a cooperative agreement with the city of Monticello, DOE provided the City with heavy equipment for use in removing and transferring radiologically contaminated material from City and UDOT excavations within Monticello city limits to the temporary storage facility (TSF) located at the DOE repository about 1 mile south of town.

Institutional controls affecting these properties include radiological surveillance and control by DOE-LM contractor personnel at all highway, city street, and utility excavations in Monticello. Radiologically contaminated material (≥ 5 pCi/g Ra-226) encountered in a City excavation is removed and transferred to the TSF, or under emergency conditions may be stockpiled temporarily at City-owned property MS−01006−VL. At the option of UDOT, through a

memorandum of understanding between DOE and UDOT, radiologically contaminated material may be returned to the UDOT excavation as fill, or transferred by qualified City workers and equipment to the TSF, or to property MS−01006−VL for temporary stockpiling and later transfer to the TSF by the City. Contaminated material eroded from the Highway 191 embankment at Montezuma Creek, if observed, will be similarly managed. DOE-LM contractor representatives manage the TSF and contents through ultimate disposal of the materials at the DOE Grand Junction Disposal Site, Grand Junction, Colorado. Effective implementation and enforcement of the institutional controls affecting the City and UDOT supplemental standards areas is ensured through routine long-term surveillance and maintenance (LTSM) activities (see Section 4.4).

4.3.2 Zoning Ordinance

As part of the supplemental standards application for MS−00176−VL, this property was assigned a special zoning designation through the Monticello Planning Commission (Zoning Ordinance 2002-4). The designation (Overlay Zone OL-1), enacted July 10, 2002, requires the owner to obtain a special 2-part building permit for planned construction. The first part allows excavation of the building footprint. The second allows construction of the structure only if the DOE-LM contractor representative has signed Part 1 of the permit indicating that a radiological survey has been completed and that neither the footprint area or spoils pile are radiologically contaminated; or, if radiologically contaminated material was present the material was removed to the TSF under direction of the DOE-LM contractor representative. The property deed was annotated to identify the zoning restriction. Effective implementation and enforcement of the institutional control affecting property MS−00176−VL is ensured through routine LTSM activities (see Section 4.4). Zoning Ordinance 2003-2 was enacted April 23, 2003, as a separate institutional control to address residual contamination of MMTS property MP−00211−VL (City-owned).

4.4 Long-Term Surveillance and Maintenance

DOE LTSM activities at the Monticello sites began October 1, 2001, under the DOE Grand Junction Office LTSM Program. This program provided stewardship to DOE sites that contain low-level radioactive materials and have no ongoing mission. The LTSM Program was tasked with ensuring compliance with applicable regulations, licenses, and agreements, and ensuring disposal sites remain protective of human health and the environment. LTSM activities were implemented through the LTSM Program in accordance with the *Monticello Long-Term Surveillance and Maintenance Administrative Manual* and associated four-volume set of operating procedures.

In December 2003, all activities formerly conducted under the LTSM Program, including those for the Monticello NPL sites, were transferred to the newly established DOE-LM. Administration of MVP and MMTS, and LTSM activities for these sites, are presently conducted in accordance with *Long-Term Surveillance and Maintenance Plan for the Monticello NPL Sites*, June 2007, a single volume document that supersedes the previous five-volume LTSM manual. The DOE-LM contractor employs full time staff at the Monticello field office to conduct LTSM activities for the MVP and MMTS. The major components of the LTSM activities as they pertain to MVP are:

- Responding to public and municipal inquiries.

- Routine surveillance of supplemental standards properties for evidence of unauthorized excavation or severe soil erosion (particularly at the Highway 191 embankment at Montezuma Creek).
- Coordinating and providing oversight of construction work performed in supplemental standards areas by UDOT and the city of Monticello; surveying spoils for radiological contamination; implementing appropriate control procedures when radiologically contaminated material is encountered; and furnishing temporary storage for the radiologically contaminated material until ultimate disposal at the Grand Junction Disposal Site.
- Conducting radiological surveys to support construction of habitable structures on supplemental standards property MS−00176−VL.
- Documentation, records keeping, and reporting of LTSM activities.

Currently, two full-time employees with residence in the Monticello area are stationed at the site to conduct LTSM activities. The projected LTSM budget for fiscal year 2007 (October 1, 2006, through September 30, 2007), including the MVP and MMTS, is about $800,000. Similar funding is anticipated through calendar year 2012 when the next five-year review will occur.

4.5 Land Reuse

Remediation and restoration of properties comprising OU A to G has allowed these properties to be returned to their original use without restriction. Uses include residential dwelling, commercial, light industrial, and open space. The application of supplemental standards and institutional controls at OU H has allowed the affected properties to be returned to their original use, primarily as public roads and utility corridors.

5.0 Progress Since the Last Five-Year Review

In December 2003, the LTSM Program was replaced by DOE-LM, under which the MVP and MMTS are currently administered.

DOE has completed the *Long-Term Surveillance and Maintenance Plan for the Monticello NPL Sites*, June 2007, which defines the procedures and requirements of LTSM activities at the MVP and MMTS. This plan updates and supersedes the *Monticello Long-Term Surveillance and Maintenance Administrative Manual* and associated four-volume set of operating procedures.

Zoning Ordinance 2002-4 was enacted July 10, 2004, by the Monticello Planning Commission as an institutional control to restrict land use on supplemental standards property MS–00176–VL. This activity finalized the remedy implementation for the MVP site.

In April 2007, DOE and the city of Monticello completed a new cooperative agreement that extends to December 31, 2016.

6.0 Five-Year Review Process

6.1 Site Inspection

Comprehensive site inspections of the MVP and MMTS are conducted annually as an independent check to ensure LTSM activities are properly implemented, that site conditions are acceptable, and that the institutional controls are effective. The 2006 annual site inspection was conducted on September 27 to 29, 2006, by DOE, EPA, UDEQ, and DOE-LM contractor site managers and designees. DOE, EPA, and UDEQ agreed that the physical inspection of the site would serve as both the CERCLA five-year review site inspection and the 2006 annual inspection of the MVP and MMTS. Results and details of the inspection are reported in the *2006 Annual Inspection of the Monticello Mill Tailings (USDOE) and Monticello Radioactively Contaminated Properties Sites*, December 2006. Relevant MVP site inspection observations are summarized in Table 2. Attachment 1 provides the report for the 2006 annual inspection of the MVP (and MMTS).

Table 2. 2006 MVP Annual Inspection Observations

Observation
The temporary storage facility is nearing capacity of radiologically contaminated material.
LTSM radiological safeguards for City and UDOT excavations in Monticello are effective. No deficiencies noted.
LTSM radiological safeguards for MS–00176–VL are effective. No deficiencies noted.
No excessive erosion of Highway 191 embankment at Montezuma Creek (supplemental standards apply).
On-site record-keeping/documentation of LTSM activities are adequate.
No unmonitored excavations, planned or unplanned, were observed.
Communications between LM on-site employees and City and UDOT officials are adequate and effective.

6.2 Community Notification

Announcements were published in two local weekly newspapers, the *San Juan Record* and the *Blue Mountain Panorama*, on February 21, 2007, describing the CERCLA five-year review process and objectives, and informing the public on how to contact DOE and on-site LM representatives for additional information or to provide comments. Copies of the announcements are provided in Attachment 2. DOE received no public comment regarding the MVP remedy other than that solicited in interviews with stakeholders (see Section 6.3). In June or July 2007, DOE will place the final outcome of the five-year review, as determined in Sections 7.0 to 10.0 of this report, in these same newspapers, along with DOE contact information and the locations where copies of the final reports can be viewed.

6.3 Interviews

As part of the five-year reviews for the MMTS and MVP, a community relations specialist of the DOE-LM contractor interviewed local property owners and stakeholders to gather information about the site's effect on the community. The interviews were conducted in Monticello on February 13 and 14, 2007. Interviewees had been contacted the previous week to schedule the interviews. The owner or representative of each property affected by an institutional control (land or ground water use restriction) was interviewed. Two of the interviewees (Pete Steele and

Brian Bowring) were not available for on-site interviews and were instead contacted later by telephone). Specific interview questions and responses are provided in Attachment 3 of this report. Interviewees and their relation to the sites are listed below.

Lisle Adams—MMTS peripheral property owner
Doug Allen—Monticello Mayor
Brian Bowring—MMTS peripheral property owner (not available for interview)
Chet Johnson—Utah Department of Transportation, Monticello office
John Johnson—MMTS peripheral property owner
Rye Neilson—MMTS peripheral property owner
Sanford Randall—Owner, MVP peripheral property MS−00176−VL
Trent Schafer—Monticello City Manager
Kedrick Somerville—MMTS peripheral property owner
Pete Steele—MMTS peripheral property owner (not available for interview)

Interviews were conducted to evaluate public and municipal perception of the effectiveness of the remedies implemented for MMTS and MVP in protecting human health and the environment. Interview questions were asked to determine if roles and responsibilities among the stakeholders and DOE in maintaining the institutional controls were clearly defined and effective, and whether the on-site presence of DOE, through its contractor, was perceived to provide sufficient response and support in maintaining these controls.

No interviewee raised concern that the MVP remedy was not protective, that the public was not adequately informed, or that DOE on-site presence through the LM contractor representatives was inadequate or misdirected in their efforts to maintain the effectiveness of institutional controls. UDOT and City representatives confirmed that the working arrangements with DOE-LM contractor representatives in managing supplemental standards areas of MVP were adequate and effective.

6.4 Document and Data Review

Project documents and data were reviewed as part of the five-year review process to form the basis of the technical assessment of remedy protectiveness presented in Section 7.0. Documents and data are reviewed to compare actual site conditions to the protectiveness requirements set forth in the decision, design, and implementation phases of the project.

Documents and data reviewed in this five-year review were:

- Monticello Vicinity Properties Project Declaration for the Record of Decision and Record of Decision Summary, November 1989
- Long-Term Surveillance and Maintenance Plan for the Monticello NPL Sites, June 2007
- U.S. Environmental Protection Agency Region VIII Hazardous Waste Management Division Five-Year Review (Type Ia), Monticello Vicinity Properties Site (San Juan County, Utah), February 1997 (first MVP five-year review)
- Second Five-Year Review Report for Monticello Radioactively Contaminated Properties, City of Monticello, San Juan County, Utah, June 2002

- Annotated deeds for the supplemental standards properties
- Memorandum of understanding between DOE and UDOT
- Cooperative agreement between DOE and city of Monticello
- Field books and associated drawings in which Monticello on-site LM representatives record/document MVP LTSM activities:
  - City Streets and Utilities Record Book
  - Highways 191 and 666 Record Book
  - MS–00176–VL Record Book
  - Temporary Storage Facility Record Book
  - Radiological "as-built" drawings (mapped locations of radiological contamination encountered)
- Results of inspections and radiological scanning of the City Streets and Utilities and Highways 191 and 666 supplemental standards areas were reviewed. These data are located in the field record books and on radiological survey maps maintained at the DOE Monticello field office.
- Recent MMTS/MVP annual inspection reports.

7.0 Technical Assessment

EPA guidance on conducting CERCLA five-year reviews recommends that a technical assessment of remedy protectiveness be based upon the answers to the three specific questions posed in Sections 7.1, 7.2, and 7.3.

7.1 Question A: Is the remedy functioning as intended by the decision documents?

The remedy for all operable units has been completed. The remedy included removal of all radiological contamination to meet the appropriate clean up standards at the affected properties comprising OU A to OU G. Contaminated material was placed for interim storage at the former millsite and final placement in the permanent repository. Affected properties were reconstructed following removal actions.

As allowed under 40 CFR 192.21 and 192.22, supplemental standards were approved for certain properties (those comprising OU H) allowing some of the low-level radioactively contaminated soil to remain in place. Most of this material is in utility corridors beneath streets and highways in Monticello and in the embankment where Highway 191 crosses Montezuma Creek and so is isolated from potential exposure to humans or dispersal to the environment. Contamination left in place at the remaining supplemental standards property (private property MS−00176) is surficial windblown material interspersed among mature piñon/juniper trees. Institutional controls have been applied that direct radiological control measures on the supplemental standards properties to minimize future exposure to and dispersal of the contamination. The final component of the MVP remedy was implemented with the enactment of Zoning Ordinance

2002-04 in 2002 to complete the remedy for supplemental standards property MS−00176. EPA and UDEQ certified the successful implementation of the MVP remedy through approval of Remedial Action Reports (see Table 1).

Routine LTSM monitoring and surveillance activities ensure compliance with the institutional controls and that any radiologically contaminated material from the supplemental standards properties, if encountered during construction activities or through severe erosion, is properly identified and managed by DOE-LM.

7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and Remedial Action Objectives used at the time of the remedy still valid?

The primary purpose of the remedial action for the MVP, as specified in the ROD, was to limit exposure to radioactive material to levels protective of human health and the environment. These levels are specified as standards for radium, radon and radon daughters, and gamma exposure rates in 40 CFR 192. These cleanup levels have not changed since the ROD was signed. There have been no changes in physical conditions or in the use of the site that would reduce the protectiveness of the remedy.

The remedial action objective to eliminate the potential for exposure of the local population to elevated levels of radon gas and gamma radiation has been accomplished through source removal and implementation of institutional controls.

7.3 Question C: Has any other information become available to dispute the protectiveness of the remedy?

No anomalous conditions suggesting failure of the remedies were found during the site inspection, document and data review, or interviews for the MVP OUs. LTSM activities related to the MVP remain relevant and are appropriately implemented. LTSM monitoring and radiological surveying has not identified contamination inconsistent with what is known or expected. Review of the LTSM plan confirmed that adequate controls and procedures are in place.

7.4 Technical Assessment Summary

The remedy for MVP is functioning as intended by the ROD. There have been no changes in site conditions that would adversely affect the protectiveness of the remedy. Cleanup standards for OU A to OU G have been attained and the standards have not changed. At OU H, where contamination was left in place, the implemented institutional controls and LTSM safeguards remain relevant, adequate, and effective.

8.0 Issues

Table 3 lists only the observations considered to have potential effect on protectiveness of the remedy.

Table 3. Issues

Issue	Currently Affects Protectiveness (Y/N)	Potentially Affects Future Protectiveness (Y/N)
Expiration of the DOE/City of Monticello Cooperative Agreement was extended from June 27, 2005, to December 31, 2006.	N	Y

9.0 Recommendations and Follow-up Actions

Table 4 lists the recommended follow-up actions and responsible party for the issues identified in the preceding section.

Table 4. Recommendations and Follow-up Actions

Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency
DOE/City of Monticello Cooperative Agreement.	In April 2007, DOE and the City completed negotiations for a new agreement that extends to December 31, 2016.	DOE	None

10.0 Protectiveness Statements

10.1 Protectiveness Statements for Individual MVP Operable Units

Protectiveness statements for the individual OUs of the MVP site are presented below.

Operable Unit A—Properties included in the FFA

The remedy at OU A is protective of human health and the environment. Contamination has been removed from OU A and exposure pathways have been eliminated.

OU A construction was completed in accordance with the requirements of the ROD and as documented in the Remedial Action Report, January 1997. No information has been identified since that time to dispute the protectiveness of the remedy.

Operable Unit B—Properties included subsequent to the FFA

The remedy at OU B is protective of human health and the environment. Contamination has been removed from OU B and exposure pathways have been eliminated.

OU B construction was completed in accordance with the requirements of the ROD and as documented in the Remedial Action Report, July 1999. No information has been identified since that time to dispute the protectiveness of the remedy.

Operable Unit C—Disputed properties

The remedy at OU C is protective of human health and the environment. Contamination has been removed from OU C and exposure pathways have been eliminated.

OU C construction was completed in accordance with the requirements of the ROD and as documented in the Remedial Action Report, July 1997. No information has been identified since that time to dispute the protectiveness of the remedy.

Operable Unit D—Properties contaminated with potential hazardous substances

The remedy at OU D is protective of human health and the environment. Contamination has been removed from OU D and exposure pathways have been eliminated.

OU D construction was completed in accordance with the requirements of the ROD and as documented in the Remedial Action Report, July 1999. No information has been identified since that time to dispute the protectiveness of the remedy.

Operable Unit E—Properties crossed by Hall's Ditch

The remedy at OU E is protective of human health and the environment. Contamination has been removed from OU E and exposure pathways have been eliminated.

OU E construction was completed in accordance with the requirements of the ROD and as documented in the Remedial Action Report, July 1999. No information has been identified since that time to dispute the protectiveness of the remedy.

Operable Unit F—Properties where owner negotiations delayed remediation

The remedy at OU F is protective of human health and the environment. Contamination has been removed from OU F and exposure pathways have been eliminated.

OU F construction was completed in accordance with the requirements of the ROD and as documented in the Remedial Action Report, July 1999. No information has been identified since that time to dispute the protectiveness of the remedy.

Operable Unit G—Properties included since the beginning of 1995

The remedy at OU G is protective of human health and the environment. Contamination has been removed from OU G and exposure pathways have been eliminated.

OU G construction was completed in accordance with the requirements of the ROD and as documented in the Remedial Action Report, July 1999. No information has been identified since that time to dispute the protectiveness of the remedy.

Operable Unit H—Supplemental Standards properties

The remedy at OU H (supplemental standards properties including Monticello City Streets and Utilities, Highways 191 and 666 Rights-of-Way, and MS–00176–VL) is protective of human health and the environment.

OU H construction was completed in accordance with the appropriate applications for supplemental standards and as documented in the Remedial Action Report, July 1999. Contaminated material was left in place and supplemental standards were applied to these properties in accordance with the allowances of 40 CFR 192.21 and 192.22. Institutional controls are implemented to direct radiological control measures at the areas where contamination was left in place. Routine long-term surveillance and monitoring is conducted to ensure that the institutional controls remain effective.

10.2 Comprehensive Protectiveness Statement for MVP

The remedy for each OU of the Monticello Vicinity Properties NPL Site is protective; therefore, the MVP site remedy is protective of human health and the environment.

11.0 Next Review

The next five-year review for the MVP is required in June 2012, five years from this review.

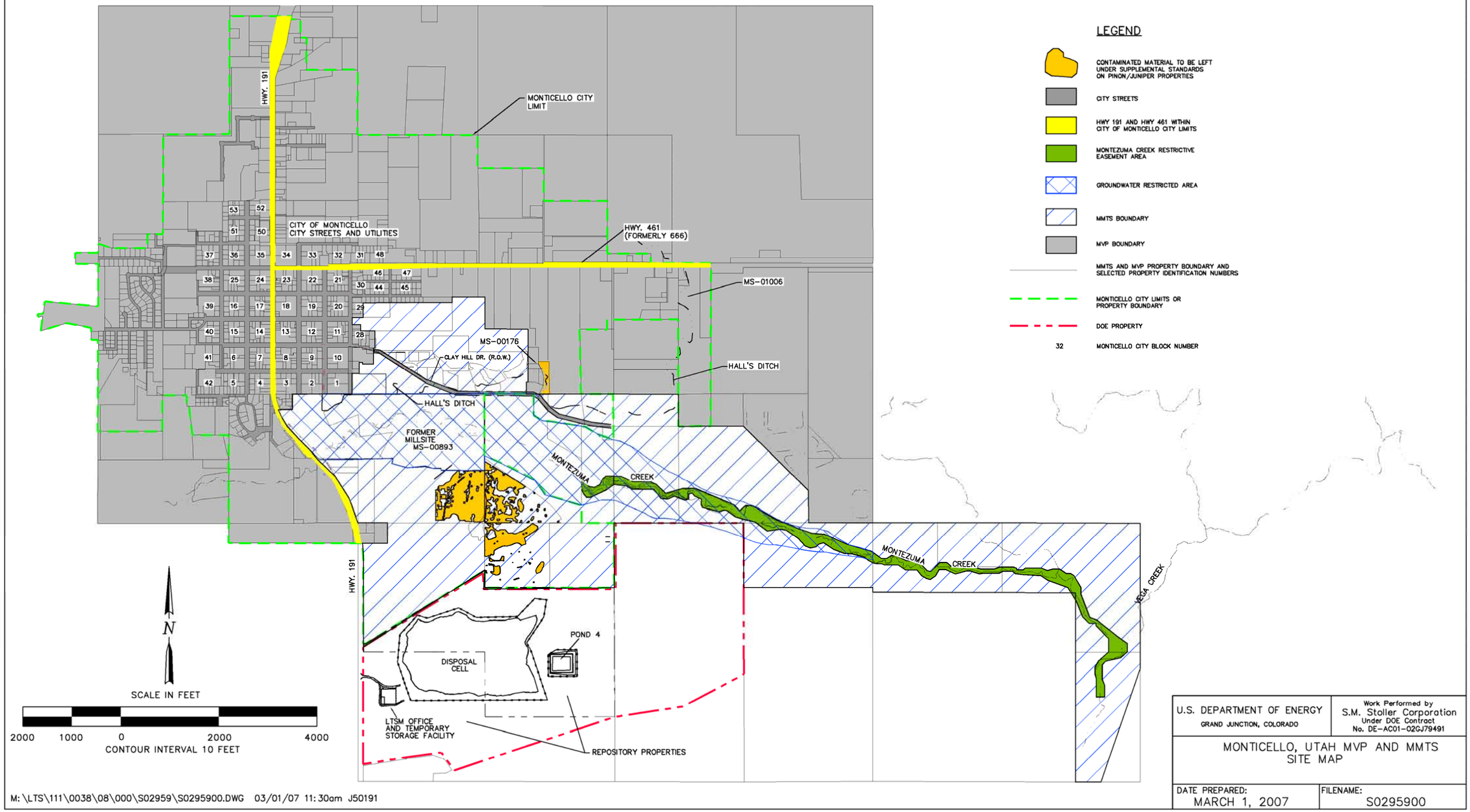

Figure 1. Monticello, Utah, MVP and MMTS Site Map

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Attachment 1

2006 MMTS and MVP Annual Inspection Report

Attachment 2

2007 CERCLA Five-Year Review Announcements

The San Juan Record Monticello, Utah Thursday, February 21, 2007

The U.S. Department of Energy Office of Legacy Management has initiated a Five-Year Review for the Monticello Mill Tailings Site and the Monticello Radioactively Contaminated Properties (Monticello Vicinity Properties) Site

Representatives from the U.S. Department of Energy (DOE) Office of Legacy Management (LM) are taking the lead in conducting five-year reviews required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for the DOE Monticello Mill Tailings Site and the Monticello Radioactively Contaminated Properties (Monticello Vicinity Properties) Site, Monticello, Utah. These reviews serve as checkups to ensure that the selected remedies continue to protect human health and the environment. This will be the third such review for the sites since the start of remedial actions in 1987.

The remedies included removing and relocating approximately 2.5 million cubic yards of uranium mill tailings and radiologically contaminated soil and debris from the millsite, adjacent properties, and vicinity properties to a permanent repository constructed south of Monticello, Utah. Land use restrictions in conjunction with alternate clean up standards (supplemental standards), and ground water use restrictions, were implemented as part of the remedy to ensure that known contamination left in place is not further dispersed and does not adversely affect human health and the environment. Information on these two sites is available on the DOE LM website located at: www.LM.doe.gov/land/sites/ut/monticello/monticello.htm.

The review team will study site reports, past and present monitoring and inspection data, monitoring and surveillance practices, and conduct a physical inspection of the site. In addition, interviews will be conducted with selected local government and State officials for comments and concerns regarding remedy effectiveness and administration of the sites. The public is encouraged to contact the DOE LM Monticello site representative indicated below with suggestions or concerns regarding the site remedies or administration.

Art Kleinrath
U.S. Department of Energy
Office of Legacy Management
955 Mound Road
Miamisburg, Ohio 45342
Email: akleinrath@lm.doe.gov
(937) 847–8350, extension 318
(877) 695–5322 (toll free)

A Five-Year Review Report will be prepared at the conclusion of the review to document and present the findings. The final report is expected to be available for public review by July 2007 at the following locations:

Monticello Repository Office
7031 South Highway 191
Monticello, Utah 84535
(435) 587–2902 or (435) 587–3115

U.S. Department of Energy
Office of Legacy Management
Technical Library
2597 B¾ Road
Grand Junction, Colorado 81503
(970) 248–6089

DOE Legacy Management website: www.LM.doe.gov/land/sites/ut/monticello/monticello.htm

Blue Mountain Panorama Blanding, Utah Wednesday, February 21, 2007

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Attachment 3

2007 CERCLA Five-Year Review Interviews

Interview Results for the MMTS and MVP Five-Year CERCLA Reviews

As part of the five-year reviews for the MMTS and MVP, a community relations specialist (Judy Miller) of the DOE LM contractor (S.M. Stoller) interviewed local property owners and stakeholders to gather information about the site's effect on the community. The interviews were conducted in Monticello during February 13 and 14, 2007. Interviewees were initially contacted the previous week to schedule the interviews. Two of the interviewees (Pete Steele and Brian Bowring) were not available for on-site interviews and were instead contacted later by telephone.

Interviewees and their relation to the sites are listed below.

Chet Johnson—Utah Department of Transportation, Monticello office
Trent Schafer—Monticello City Manager
Doug Allen—Monticello Mayor
Lisle Adams—MMTS peripheral property owner
Kedrick Somerville—MMTS peripheral property owner
Sanford Randall—Owner, MVP peripheral property MS−00176−VL
Rye Neilson—MMTS peripheral property owner
John Johnson—MMTS peripheral property owner
Pete Steele—MMTS peripheral property owner
Brian Bowring—MMTS peripheral property owner

Results of the interviews are provided below as noted by the S.M. Stoller community relations specialist.

Interviewee: Chet Johnson—Utah Department of Transportation
Date of Interview: February 14, 2007
Location: UDOT office

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: I think it's great. Joe and Todd are doing a great job. No problems.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: I think they're more than adequate. Everyone feels safe.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: I don't know of any.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: Yes. If there's any lack of communication it's my fault. They seem to be on top of things.

Question: What effect do site operations have on the surrounding community?

Response: Minimal if any that I'm aware of. It's always quiet out there.

Interviewee: Trent Schafer—City Manager
Date of Interview: February 14, 2007
Location: City of Monticello office

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: We work closely with the two Stoller employees. We do quite well with those guys. Art (Kleinrath, DOE) and Paul (Mushovic, EPA) stop in occasionally. We still have issues to resolve with Art about millsite maintenance. There are some places we're not in agreement about. For instance, the erosion. They think it's worse than we do. The City needs to put inspections and monitoring in place.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No, the wetland areas are well established. They turned out very nice.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: I do. We think they are very adequate.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: Not that I know of.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: Yes. I find it very easy to get a hold of Art and on-site personnel are here in a minute if we call them.

Question: What effect do site operations have on the surrounding community?

Response: None.

Question: Are there any plans to change the recreational use of the former millsite? If so, have these plans been submitted to the National Park Service?

Response: The City Parks and Beautification committee was formed last year and a subcommittee is discussing ways to improve the former millsite. They have discussed improving the trails and maybe paving the paths. It has also been discussed that part of the site could be used as the County Fairgrounds and there's also talk of a Science Center being located on the site.

Question: Have there been communications or activities (site visits, inspections, reporting activities, etc.) conducted by the City of Monticello regarding the millsite? If so, please give purpose and results.

Response: We're going down there quite a bit. We don't do any reporting unless there's something to address.

Question: Are there specific problems in complying with the terms of the cooperative agreement?

Response: No.

Question: Are there general or specific community concerns regarding the conduct of LTSM activities at the MVP supplemental standards properties? If so, please give details.

Response: No.

Question: Have there been any complaints, violations, or other incidents related to the MMTS requiring an official response from your office? If so, please give details of the events and results of the responses.

Response: No.

General comments: We've got a good relationship with DOE. We need to bring up our level of inspections and erosion control on our part. We also need to use the space for other things/activities.

Interviewee: Doug Allen—City Mayor
Date of Interview: February 14, 2007
Location: City of Monticello office

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: I'm a little frustrated. What are DOE's responsibilities and what are the City's responsibilities? Are we going to have this oversight forever? It should be the City's, or not. I think the federal government should take it back. DOE is still retaining $50,000 because they're not happy with how we're managing it. They should come to the City Council and explain exactly what they want from the City. They should explain their expectations. I don't see it as a good deal for the City of Monticello.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: I don't know of any problems but I'm not sure if I'm qualified to answer the question.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: Not from citizens. Not a great deal of concerns. People know to contact the City and DOE before digging.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: I think it's excellent.

Question: What effect do site operations have on the surrounding community?

Response: None. Don't know of any.

Question: Are there any plans to change the recreational use of the former millsite? If so, have these plans been submitted to the National Park Service?

Response: There are plans for a Science Center and the County is thinking of using the upper part of it for the County Fairgrounds, but no other plans that I'm aware of.

Question: Have there been communications or activities (site visits, inspections, reporting activities, etc.) conducted by the City of Monticello regarding the millsite? If so, please give purpose and results.

Response: Not that I'm aware of.

Question: Are there specific problems in complying with the terms of the cooperative agreement?

Response: Evidently, if they're not releasing the $50,000. We've earmarked that money to go to the Victims of Mill Tailings Exposure group. There is constant nitpicking from DOE. We need to know their specific expectations. When does it end? Has the property been transferred to the City of Monticello? When will the DOE management end? I don't like the financial constraints. We should decide how much money we spend to maintain the property.

Question: Are there general or specific community concerns regarding the conduct of LTSM activities at the MVP supplemental standards properties? If so, please give details.

Response: I don't think so.

Question: Have there been any complaints, violations, or other incidents related to the MMTS requiring an official response from your office? If so, please give details of the events and results of the responses.

Response: Not that I'm aware of.

General comments: I don't like where DOE wants to put the Science Center. We all decided that another place would be better. The golf course issue is clouding DOE's judgment about the center. If we own the property, why do we need permission? The golf course decision is still affecting DOE's relationship with the City. I also want to comment about cancer in the community. Cancer and other health problems are a legacy of the millsite. We are upset with DOE and the Utah Department of Health.

Interviewee: Lisle Adams—Property owner
Date of Interview: February 13, 2007
Location: Lisle Adams' home

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: DOE did a good job. I bought the property after the cleanup. No criticisms.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: Yes.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: I can't see that they've done much since DOE finished the cleanup. It could be more aesthetically pleasing than it is. Maybe they could plant some trees that could withstand the drought. There could be more beautification of the site.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: They're all just really good to me. Joe does a great job. He's amazing and very helpful. I have confidence in them.

Question: What effect do site operations have on the surrounding community?

Response: I don't see anything.

General comments: DOE worked hard to get the cleanup done and they were conscientious in their work.

Interviewee: John Johnson—Property owner
Date of Interview: February 13, 2007
Location: John Johnson's home

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: Seems to be okay. They could have grown grass around the buffer zone for grazing. Looks fine.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: Yes, plenty good. No problems. The contamination was buried well and seeded. There's no radioactivity. Shouldn't be any worry to the public.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: No. Looks okay.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: Yes. If I need something they are very helpful.

Question: What effect do site operations have on the surrounding community?

Response: Haven't heard any complaints. I think the community wanted the City to have more walking paths. They could have put a recreation building on the site. There could be horse riding and other activities.

General comments: DOE interacts well with the community.

Interviewee: Rye Neilson—Property owner
Date of Interview: February 13, 2007
Location: Rye Neilson's home

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: They did a good job cleaning everything up. They kept us informed.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: Yes.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: No, except the condition of the road going down there (Clayhill Drive). I thought the City was going to repair it.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: Yes, they're very good – very helpful.

Question: What effect do site operations have on the surrounding community?

Response: I think they've (DOE) been very good.

Interviewee: Sanford Randall—Property owner
Date of Interview: February 14, 2007
Location: Sanford Randall's home

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: Fine. I don't have any dealings with them.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: Yes. I don't think there's that big of a threat anyway. I wouldn't be concerned.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: Not that I've heard of.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: I think so. It's easy to find them.

Question: What effect do site operations have on the surrounding community?

Response: None.

General comments: Pretty much a forgotten thing now. It was a big deal during cleanup but not now.

Interviewee: Kedrick Somerville—Property owner
Date of Interview: February 14, 2007
Location: DOE office

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: There hasn't been anything that I would call management. Taking care of road access, irrigation, etc. has been very good. They are very careful.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No. I don't think so. There's been some in the past but they were dealt with.

Question: Have you noticed any unusual activities on the millsite?

Response: No, except hunting on the millsite. I have told the City about this problem. The City needs to take a stand on whether there is or isn't hunting on the site. If not, they should lock the gates and post "No Hunting" signs. Otherwise, make it open. I would like to see some definite control regarding hunting. They need to consider liability on site if something happens to hunters.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: Yes, I really do.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: By the City it seems like it's non-existent. The paths are gravel and they wash away and weeds grow over the paths. The City needs to maintain the property.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: Yes, very much so. I have contact with Joe and Todd weekly or bi-weekly. They're very good about taking care of concerns that I have.

Question: What effect do site operations have on the surrounding community?

Response: Not much.

General comments: I have problems with eight or nine acres of mine that were cleared of topsoil and the soil was replaced with clean soil. Since then, the intake of water has reduced and there's a lot of runoff. It's not yielding the crops (hay) that I should have. It's been several years and the soil has not improved. When Marilyn (Kastens) did a soil study several years ago, there was serious compaction. We used a ripper and that helped, but even in that area, the roots grow down and then grow sideways when they reach the compacted soil. The yield has been reduced by 50% in some places. The topsoil is good and some acres are doing well but some are not. The rest of the project seems to be fine. When they started the cleanup they said they'd put it back the same or better but that just hasn't happened. I want to know what they can or can't do about that. I want to talk to someone about it.

Interviewee: Pete Steele – Property owner
Date of Interview: March 28, 2007
Location: Telephone interview

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: I don't think the whole project was managed well. When DOE talked to property owners, they would always quote the regulations and say this is how they have to do it. Some of the DOE managers were very good but others just wanted to placate the contractors and EPA. Land owners suffered. They would spend money cleaning under houses instead of just re-building. They would find that radiation was more extensive but they couldn't clean it all up because they couldn't prove the DOE caused the contamination. There were some properties in Monticello that were cleaned three times. EPA changed the rules. Contractors who did the work had to get blessings from DOE who had to report to EPA watch dogs. The last five years it hasn't been managed. DOE has been complying with EPA but they're not concerned about property owners. This property was only cleaned to supplemental standards.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No. I guess not.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: No. It was never cleaned up to begin with. People are still getting cancer.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: The City is catching a lot of flak by DOE but DOE isn't managing the site because of guidelines. The City has mismanaged the site. The City has to go through DOE to get permission to do anything. There were bad decisions made by the City. They mismanaged funds given by DOE.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: I think Joe does a good job communicating with property owners. The higher-ups do not come out here and talk with us. The people of Monticello need to be served by DOE.

Question: What effect do site operations have on the surrounding community?

Response: It has a great deal. The City of Monticello is going to bat to get assistance to help people with cancer. We are trying to get an early detection clinic. We would like to do a lot of things at the old millsite. Build a community center, a science center, rodeo grounds, a firing range, etc. We could do a lot with that area but we're still in limbo.

General comments: The general population is not happy about what happened here. The City of Monticello didn't gain anything. If DOE could help the Victims of Mill Tailings Exposure, that would help DOE's image in Monticello.

Interviewee: Brian Bowring – Property owner
Date of Interview: March 28, 2007
Location: Telephone interview

Question: What is your general impression of the DOE LM management of the MMTS site (repository, former millsite, supplemental standards properties, ground water restricted area)?

Response: I have mixed feelings on that. I think they have different guidelines for different properties.

Question: Are you aware of any projects or activities that could disturb the wetland areas along Montezuma Creek?

Response: No. Not that I'm aware of.

Question: Have you noticed any unusual activities on the millsite?

Response: No.

Question: Do you feel the safeguards provided by the site remedy are adequate in protecting the public from contaminated soil at supplemental standards properties? From contaminated ground water?

Response: Yes.

Question: Are there general or specific community concerns regarding the administration or operation of the site by DOE? By the City?

Response: No.

Question: Is there adequate communication, response, involvement, cooperation with DOE LM on-site personnel regarding site operations?

Response: Yes. They do alright.

Question: What effect do site operations have on the surrounding community?

Response: I don't think it affects the community a lot.